

STUDIES IN NEOTROPICAL SENECCIONEAE V.

TWO NEW SPECIES OF PENTACALIA FROM COLOMBIA

Jose Cuatrecasas

Department of Botany, Smithsonian Institution, Washington, D.C.

**PENTACALIA SCHULTZEI Cuatr. sp. nov.**

Frutex plus minusve ramosus ramulisque angulosis vel striolatis juvenilibus cinereis densiuscule pubescentibus pilis albis longis valde tenuibus plus minusve flexuosis, intricatis adpressis vel subadpressis et lanuginosis.

Folia alterna crassiuscule coriacea breviter petiolata. Lamina 3.5-5.4 x 0.9-1.7 cm, elliptica vel oblongo-elliptica utrinque obtusa vel subobtusa margine parce revoluta vel plana sinuato-dentata, dentibus calloso-mucronatis 2-5 mm distantibus; adaxiale plana tantum costa impressa pubescentique conspicua, superficie in juvenilibus tenuiter subsericeo-lanuginea denique glaberrima laevisque viridis; abaxiale dense adpressoque cinereo-villosa pilis antrorsis tenuibus plus minusve flexuoso-intricatis vel sublanuginosa, ubi juvenilis visu subsericea, costa prominenti villoso-sericea, nervis secundariis 7-8 utroque latere prominulis angulo acuto ascendentibus saepe prope marginem tenuioribus evanescensibusque, venuulis minoribus obsoletis. Petiolus robustus 1-6 mm longus basim triangulato-ampliatus et subite biauriculato-amplectens, auriculis coriaceis orbicularibus vel reniformibus margine revolutis 3-6 (-10) mm amplis.

Inflorescentiae corymbosae axillares and subterminales synflorescentiam thyrsideo-paniculatam foliosam terminalem formantes, singulis corymbis 4-10 capitulis pedicellatis, ramulis striatis densiuscule albo-villosis sublanuginosis, pilis tenuissimis sericeis intricatis distale flexuosis lanuginei-crispis. Folia subtendentia sursum gradatim breviora. Pedicelli (3-) 6-12 mm longi albo-villoso-lanuginosi.

Capitula radiata cylindracea circa 10 mm longa circulo ligulari 18 mm diam. Involucrum tubulos-campanulatum circa 9 mm altum, 5-6 mm latum, explanatum 24 mm diam. Phyllaria 13-16 in capitulo, 7.5-8 mm longa oblongo-lanceolata sursum attenuata acutaque, dorsale incrassata, exteriora 1.5-1.7 mm lata, interiora marginibus late membranaceo-scariosis 2-2.3 mm lata ad apicem ciliato-penicillata pilis unicellularibus, marginibus sursum erosociliatis. Calyculus 9-13 bracteolis linearis-lanceolatis acutis villosis ad basim capituli et apicem pedunculi adnatis. Receptaculum planum 3 mm diam, alveolatum.

Flores radii ligulati 11-15 in capitulo. Corolla lutea 10-10.6 mm longa tubulo 2.8-3.1 mm longo sursum parcis pilis hyalinis crassiusculis pluricellularibus obtusis rectiusculis ascendentibus 0.2-0.5 mm longis; lamina crassiuscula rigida glabra elliptica vel elliptico-oblonga 2-2.2 mm lata apice obtusa et minutissime 3-denticulata, 6-venulata venulis immersis abaxiale tantum vix notatis, adaxiale minute papilloso-mammillata. Stylus 6-6.3 mm ramis 1 mm longis obtusis apice dense papilloso aspectu truncato, basi dilatatus cylindricus. Ovarium 0.8-1 mm longum obsolete plurivenosum.

Flores disci hermaphroditi 45-58 in capitulo. Corolla lutea 5.5 mm longa glabra tubulo circa 2 mm longo, limbo anguste tubulosum sursum gradatim leviterque ampliato dentibus ovato-oblongis circa 0.5 mm longis cum apice rotundato vel obtuso marginibus incrassatis ad apicem subcucullatis et intus papillosis. Antherae 1.7-1.8 mm longae basi sagittatae appendice apicali oblonga 0.3 mm longa. Cellulae endotheciales elliptico-oblongae nodulis seriatis in parietibus lateralibus. Collum circa 0.5 mm longum, lageniforme incrassatum cellulis quadratis conspicue pluriseriatis. Grana pollinia 0.07 mm diam spinuloso-echinata. Stylus 6 mm longus apice ramorum truncato-papillato. Ovarium 0.8 mm longum plusminusve 10-nervatum. Pappus 5-6 mm longus pilis uniseriatis albis strigosis basi non coalitis.

Typus: Colombia, Sierra Nevada de Santa Marta, loco dicto Siminchucuá, 3400 m alt, June 1928, Arnold Schultze 1285; holotypus, B; isotypus, B.

Pentacalia schultzei is closely related to P. mamancanacana Cuatr. from the southern slopes of the major snowy peaks-chain of the Sierra Nevada. The Mamancanaca plant differs from P. schultzei by its rather shorter leaves with denser and thicker lanate indument abaxially, the revolute entire margins with no noticeable mucronate teeth, and by the absolute absence of auricular expansions of the petiole bases. In addition, P. mamancanacana has larger capitula with 20-21 phyllaries, 16-20 rays and 98-100 disk flowers; the ray corollas are 12-14 mm long and the disk corollas 6.5-7 mm long.

The specific name commemorate Dr. Arnold Schultze, the German botanical explorer who for many years devoted himself to the Sierra de Santa Marta. His important collection at Berlin-Dahlem was unfortunately destroyed during the second world war. A. Schultze is also known by his first hand descriptions of the landscape vegetation and flora of the Sierra de Santa Marta ("Flammen in der Sierra Nevada de Santa Marta", Hamburg 1937).

## PENTACALIA SCHULTZEI subsp. SEVILLANA Cuatr. subsp. nov.

A *P. schultzei* ssp. *schultzei* praecipue differt:

Lamina foliorum 3-6 x 1-2.2 cm, adaxiale glabra, subitus glabrescens pilis flexuosis plus minusve intricatis sparsis tenuissime vestita. Auriculae basi foliorum usque ad 10-12 mm latae. Capitula 19-20 floribus radii et 79-85 floribus disci. Involucrum 20-21 phyllariis. Corollae radii 8.5 mm longae. Corollae disci 5-5.5 mm. Calyculus 13-14 bracteolis anguste lanceolatis 3-4 x 0.6-0.9 mm.

Typus. Colombia, Magdalena: Sierra Nevada de Santa Marta, western slopes, cabeceras del Rio Sevilla, 3495 m alt, North facing slope of ridge above camp-site; ecotone between shrubs and grassland, upper edge of draw with trees and shrubs, not seen elsewhere; shrub 1 m, leaves 10.5 x 2.5 cm, leighter below, heads yellow, involucre green with white hairs, rays bright yellow, disc flowers yellow, 20-30 Jan 1959, H. G. Barclay & P. Juajibioy 6594 holotype, US.

## PENTACALIA URIBEI Cuatr. sp. nov.

Frutex altus caulinibus inclinatis ramis pendulis. Ramuli foliosi pallide grisei granulato-resinosi et densiuscule patulo-pilosoi leviterque araneosi, pilis 0.2-0.5 mm longis plurimellaribus basi conica vel lageniformi rigidaque distale cellulis seriatis brevibus sed terminali tenuissima flexuoso-flagelliformi decidua.

Folia alterna petiolata coriacea. Petiolus 4-7 mm longus dense patulo-pilosus et resinosus basi paulo dilatatus. Lamina 4.5-7 x 1-3 cm, elliptica basi plus minusve cuneata apice attenuata et acuta vel acutissima, margine integerrima et anguste revoluta; adaxiale viridis, juvenili statu tenuiter lanugineo-arachnoidea, adulta glabrata superficie nitide minuteque colliculosa, costa impressa albicanti-tomentulosa tantum notata; abaxiale patulo-pilosa pilis resiniferis crassiusculis basi conici-dilatata, et tenuiter arachnoidea pilis longis tenuis intricatis, costa prominenti, nervis secundariis 5-6 utroque latere prominulis ascendentibus prope marginem arcuatis anastomosatisque, nervis minoribus parcis obsoletis.

Inflorescentiae numerosae in ramis adultis foliatis, axillares patenties foliis subtendentibus breviores vel subaequilongae, 3-6 cm longae. Axis fere tener striolatus lanuginosus cum capitulo terminatus. Capitula 10-20 secus axem racemose disposita. Pedunculi monocephali 3-6(-7) mm longi breviter pilosi araneosique recti vel curvati 1-2 bracteolis linearibus 3-4 mm longis saepe muniti. Bracteae subtendentes lineares 5-7 mm longae pedunculos excedentes, pilosulae et lanuginosae.

Capitula 8-9 mm alta 4-4.5 mm diametro. Involucrum viride cupulatum circa 5 mm altum 4 mm diametro. Phyllaria 5.1-5.5 mm longa, valde inaequalia 7-11 in capitulo saepe 2 vel 3 in unum latius 1-3-dentatum concrescentia, crasse rigiduleque herbacea, exteriora oblongo-lanceolata acutissima 1.2-1.5 mm lata, interiora margine late scariosa sursum papilloso-ciliata oblongo-ovata 2-2.6 mm lata apice acuta, dorso incrassato, apice papilloso barbato papillis densis longiusculis erectis obtusis vel claviformibus 0.05-0.07 mm longis. Receptaculum planum circa 2.5 mm diam, alveolatum marginibus alveolorum squamoso-membranaceis dentatisque dentibus acutis 3-8 mm longis. Calyculus 0-3 bracetolis circa 3 mm longis linearibus acutis plus minusve lanugineis.

Flores omnes hermaphroditici 17-27 in capitulo (saepe 19-21), actinomorphi, pentameri. Corolla lutea 5.8-6.1 mm longa glabra, tubulo 3-3.3 mm longo angusto, limbo subinfundibulari, lobis anguste triangularibus 0.9-1.1 mm longis mox recurvis saepe linea media brunnescenti, marginibus incrassatis brunnescentibus ad apicem granuloso-papilloso densis papillis crassis minutis pyriformibus. Antherae 1.35-1.4 mm longae basi breviter caudatae apice appendice anguste oblonga 0.25-0.3 mm longa, cellulis endothecialibus in parietibus lateralibus seriati-noduliferis. Collum crassum basim magis incrassatum circa 0.4 mm longum cellulis subquadratis seriatis. Grana pollinica echinata 0.025 mm. Stylus corollam 2 mm excedens basi cum brevi nectario tubuloso cinctus. Rami styli circa 2 mm longi subcomplanati sursum abaxiale breviter piloso-papillosi apice subtruncato breviter penicillato, lineis stigmaticis crassis conniventibus. Ovarium maturitate 1.3-1.5 mm longum leviter plurivenosum sed signate 5-costatum.

Typus: Colombia, Cauca, Moscopán o Santa Leticia, 2200-2400 m alt, arbusto de ramas péndulas, flores con tinte amarillento 8 Sep 1961, Lorenzo Uribe Uribe 3858. Holotypus, COL; isotypus, US.

Pentacalia uribei belongs to subgenus Pentacalia because of its habit which is apparently scandent. It is a distinctive unic species on account of its racemiform inflorescences which are axillary and shorter than the leaves; the branches have terminal leafy growing and probably no terminal inflorescences are produced. These characters in addition to its discoid heads and its double indument with two kind of trichomes, distinguishes readily P. uribei from any other known species of the genus.

It is a pleasure to dedicate this new species to the memory of its discoverer, a meticulous excellent botanist and friend, the late Dr. Lorenzo Uribe Uribe who contributed considerably to the advancement of the Colombian and the Neotropical botany.



Museum botanicum Berolinense

Nr. 4285.

Columbia. Reise in die Sierra Nevada de Santa Marta.  
acc. Juni 1928

Quatrecasas



Inv. Dr. A. Schultze

1938

Pentacalia schultzei Cuatrecasas. Holotype.

Botanical Garden and Museum, Berlin-Dahlem.



*Pentacalia uribei* Cuatrec.  
Holotype

PLANTAS DE COLOMBIA

Arbusto de largas ramas pinnadas. Flores con 5 tépalos  
anteriormente.

LAUCA Roscoff o Janta -etica  
- alt. 1.200-1.400 m.

No. 3560 Lourte Urribi Urribi coll. no. 12, M. 1974

*Pentacalia uribei* Cuatrecasas. Holotype, COL, Instituto Ciencias Naturales,  
Departamento de Botánica, Bogotá.